QA Automation Framework

List of common challenges:

- Software Quality objectives are not being met.
- Systems are becoming increasingly more complex; manual QA processes are too slow, incomplete and costly.
- The IT team is getting an unacceptable number of helpdesk tickets after software is released into production.
- Agile development has dramatically improved software development time but QA processes are creating a bottleneck.
- Cyber threats are driving the need to improve security testing and integrate it early into the SDLC.

The SDG solution:

The QA Automation solution from SDG incorporates all the individual components necessary for QA automation. It provides the framework for the different tools to do their job in a unified manner in all the phases of the organization's SDLC process; an end-to-end automated testing solution for all tests that are repeatable within the process.

These include:

- **Code driven testing or unit testing**
- **Graphical user interface (GUI) testing**
- **Penetration testing**
- **Integration and regression testing**
- **Load or Performance testing**

Feature set for the SDG QA Automation Framework

- **QA Automation for desktop Web Applications**
    – All major browsers (Chrome, Internet Explorer, Firefox, Safari, Opera)
    – All major OS (Windows, Mac, Linux)
- **QA Automation for Mobile Applications**
    – All major mobile OS (iOS, Android, Firefox mobile, Blackberry, and Windows Phone)
    – Support for both real devices and emulators
- **QA Automation for Mobile Web Applications**
    – iOS and Android
    – Support for both real devices and emulators
- **Test Parallelization**
    – Execute desktop and mobile tests in parallel across a variety of OS, browser, and device combinations
- **Continuous Integration**
    – Support for all popular CI systems (TFS, Jenkins, Team City)
- **Defect Logging, Tracking and Reporting**
    – Custom reporting solution including auto email, chat, and text notifications
- **Test Case Management Integration**
    – Support for Rally, Jira, QC, TFS and Bugzilla
- **The SDG Remote automation lab functionality**
    – Distribution of test traffic across multiple machines and mobile devices.
    – Powerful cross testing of OS/browser combinations.
    – Reduced test runtime.
    – Quick communication of test results to the customer.

Benefits of the SDG QA Automation solution:

- **QA Automation yields a higher quality product that is more secure and ultimately more cost effective by:**
  - Adding rigor and repeatability into the QA process.
  - Integrating QA early in the SDLC.
  - Freeing up testers to focus on more exploratory testing.
  - Synchronizing the test code and data along with the application code within the different SDLC environments.

- **The framework is cost effective for the organization and easily customizable to the needs of the organization.**
- **The flexibility of the framework allows the organization to substitute test components if needed without undue added cost.**

Stakeholder/ Managers

Get Feedback

Generate Reports/ Feedback

Integration   **QA**   **User Acceptance Testing (UAT)**   **Production**

Initiate Deployment

Developers & Testers

Commit Changes

Poll Changes

Get Changes

Version Control System (VCS)

Continuous Integration (CI) Server
- Configuration
- Analysis
- Testing
- Reporting

Initiate Testing

Testing Devices
- Chrome, Firefox, Explorer, Safari
- Android, iOS, Windows
- Phone, Tablet, Laptop, Desktop

SDG

[technology + passion] – risk